When cold water is passed into the tube (D) it drips on to the whole length of the two pipes (B) and gives efficient cooling. The whole still was bolted down into a wooden, tin-lined, shallow box (K) with an outlet (L). This outlet is the overflow from K and, "via" this, the waste water is collected in a bucket.

In using the still a bucketful of cold water at a higher level than the apparatus is siphoned slowly into D regulating the rate of flow by means of a screw-clip on a piece of rubber tubing. When the bucket is almost empty it is refilled, using the waste water from L—by this means only one bucketful of water is needed to work the still for a long period. With the exhaust valve of the laboratory autoclave as the source of steam a yield of about 4 pints of distilled water is obtained hourly—this has been found to be of high quality.

The approximate dimensions of the apparatus are as follows:

Internal diameter of tubes A, D and C is 7 mm. and that of B is 20 mm. The water dropping holes (E) bored in D are at 1 cm. intervals in the half of D nearest to C. The latter arrangement is necessary because the steam inlet side gets much hotter than the water producing side and therefore needs more than its share of cooling. The corrugated iron plates are 10 cm. square and it is probable that if they were many times this size the apparatus could be worked without any water cooling.

My thanks are due to Colonel J. S. K. Boyd, D.D.P., M.E.F., for his interest in the apparatus, and to the D.M.S., M.E.F., for permission to forward this article. This article was actually submitted in June, 1942, but was lost by enemy action.

A CASE OF ADDISON'S DISEASE OF TUBERCULOUS ORIGIN.

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The patient, aged 29, a serjeant, Royal Artillery, was admitted to E.M.S. Hospital, Preston Hall, on July 21, 1943. Until 1938, when he enlisted, he had been a factory worker. His
past medical history was good but there was a poor family history. His mother had had pulmonary tuberculosis and his father, one brother and a sister had died of it.

He gave a history of increasing lassitude and dyspnœa over the past six months and for the previous two months there had been occasional vomiting and fainting attacks. The latter were probably hypoglycaemic in origin. For the last month he had noticed his skin was getting darker. He had lost weight and he had had some small haemoptyses.

On examination he was a thin ill-looking man. There was diffuse pigmentation which was most marked in the skin over the flexures and about the genitals. There were pigmented patches on the inner surfaces of the cheek as well as two patches on the tongue. He was pyrexial, pulse 72 and respiration 20. No abnormal physical signs were observed in heart or lungs. B.P. 115/70.

Blood chemistry was as follows: Serum sodium, 252 mgm. per cent (325-350)\(^1\); serum chloride, 315 mgm. per cent (340-380); serum potassium, 22·1 mgm. per cent (16-20); blood urea, 45 mgm. per cent; blood sugar, 86 mgm. per cent. Blood count: R.B.C. 5·4 mill.; Hb. 93 per cent; C.I. 0·86; W.B.C. 7,200; W.R. negative.

X-ray of chest showed lung fields clear apart from a minute opacity above left clavicle. Seen through the heart shadow there was a spindle-shaped opacity stretching from about D8 to L1. Although it could not be seen on a lateral view, nor did an X-ray of the spine itself reveal any abnormality, this was diagnosed as a spinal abscess. As regards the Addison’s

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\(^1\)Normals are shown in brackets.
disease, in view of the family history and the probable presence of a spinal abscess, the underlying pathology was regarded as tuberculous.

Treatment was on conventional lines: DOCA1 5 mgm. four times daily and a salt mixture. After a period on this there was improvement in patient’s condition and the blood chemistry showed: Serum chloride, 462 mgm.; serum sodium, 332 mgm.; serum potassium, 20 mgm. and blood urea, 32 mgm. per cent. Although the general condition continued to improve he remained pyrexial at about 101°F. On August 15 he complained of pain in the right chest and dyspnoea with physical signs of a right pleural effusion. Aspiration produced a straw-coloured fluid with lymphocytes. The fluid was sterile. On August 17, X-ray showed that the abscess had slightly increased in size: the right costophrenic angle was obscured by a small effusion and there was some right-lower lobe collapse. The patch at the left apex was now more obvious with well-defined edges and a ground-glass appearance. It was not regarded as affording evidence of active infiltration, particularly as the effusion was on the opposite side. The fluid was absorbed rapidly and, apart from the continued pyrexia, patient’s condition was fairly satisfactory. On August 27, B.P. was 130/75 and the blood chemistry had reached normal with blood urea now at 16 mgm. per cent. Treatment with DOCA and salt with iron for the anaemia was continued. A small haemorrhage had been seen in the right fundus, but it disappeared three weeks later. In September epigastric pain, accompanied with vomiting, recurred and from now on his condition deteriorated. At this stage it was difficult to assess the significance of any particular symptom as both toxemia and Addison’s might have caused vomiting whilst the epigastric pain might have been caused by irritation of the posterior nerve roots by vertebral disease. On October 11 exploration from the back was carried out with a stout needle which was inserted close to the spinous process of T10, 60 c.c. pus being obtained 2 inches beneath the skin; 5 c.c. promanide was injected. On the same day chest X-ray showed a most unusual appearance. The shadow of the spinal abscess was unchanged in size but showed a fluid level due to air having entered through the needle; the patch at the left apex was unaltered in appearance.

On October 15 an Addisonian crisis occurred. The patient became increasingly drowsy, vomiting was incessant and blood-pressure fell rapidly. Increasing doses of DOCA with glucose saline transfusion caused only temporary improvement and patient died on October 17. Blood urea just before death was 88 mgm. per cent.

Post-mortem examination disclosed an active tuberculous focus at the left apex with an area of caseation and a small cavity. Both adrenals were three times their normal size and consisted entirely of caseating tuberculous material. Overlying the vertebral, from about D4 to L2 there was a large spindle-shaped abscess. The anterior wall was formed by the anterior longitudinal ligament and the posterior by the vertebral bodies, which were extensively diseased. 10D showed a deep hole which contained caseous material.

**Comment.**

1. The post-mortem finding of an active pulmonary lesion illustrates the difficulties in interpreting the significance of an opacity on an X-ray film, even when a series is available for comparison. The development of a bilateral pleurisy, though of tuberculous origin, was incidental. The presence of a pleural effusion on one side does not exclude a dry pleurisy on the other. Pleurisy has no localizing value with regard to the underlying lung lesion.

The sequence of events in this case is regarded as follows: an active tuberculosis of the lung, with pleurisy, led to tuberculosis of the adrenals and Addison’s disease on the one hand, and to caries of the spine and a tuberculous spinal abscess on the other. Spread took place by the blood-stream and, had the patient lived longer, other foci would no doubt have made their appearance.

2. Recognition of the nature of the shadow of a spindle-shaped opacity behind the heart in an X-ray may be difficult. Tumour and aneurysm have to be excluded. The writer has seen three cases of pulmonary tuberculosis in which spinal disease was not suspected until the

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1 This is a contraction for Desoxycorticosterone Acetate.—Ed.
abscess was discovered. It is therefore to be presumed that abscess formation may be a very early result of spinal caries and may exist even before radiological evidence of the latter is available. The skiagram of every case of pulmonary tuberculosis must be closely examined as, in non-penetrating films, the characteristic shadow may easily be missed.

(3) In the present case the course and response to treatment of the Addisonial element was masked by the underlying tuberculous disease. It is also difficult to explain why the blood levels of sodium and chloride returned to normal so soon after commencement of specific treatment.

(4) Since the beginning of the war nearly 2,000 cases of tuberculosis of lung have been admitted to Preston Hall. The present case was the first to present the accompaniment of Addison’s disease.

SUMMARY.

(1) The clinical course and post-mortem findings of a case of Addison’s disease of tuberculous aetiology are described and discussed.

(2) The significance of the discovery of a spinal abscess in a skiagram of the chest is stressed.

Acknowledgment is made to Dr. McDougall, M.D., F.R.C.P.E., for permission to forward these notes.

Reviews.


This Synopsis has been for nearly twenty-five years a standard work on general hygiene and particularly favoured by students.

The new edition has preserved the high standard set by previous editions and has been brought up to date by the inclusion of the latest advances in all directions.

The war years have increased the tempo of new work and the new edition has kept pace with the knowledge gained since 1942: for example, the section on parasitology has been extended and a new chapter devoted to a brief account of the uses of the sulpha-drugs and penicillin.

Public Health Law has been revised and brought up to date and now includes much of the emergency legislation of the war years.

A real effort has been made to keep the book down to reasonable proportions and certain sections have been decreased or omitted without loss to general usefulness.

The 1944 edition of “A Synopsis of Hygiene” will satisfy all the high expectations which student and public health officer alike have learnt to appreciate.


The fact that a second edition of this excellent Scottish textbook written by Professor Illingworth and eighteen collaborators has been called for fifteen months after the publication of the first edition speaks for itself. The whole work is well written and the expressions of opinion sound and in line with modern thought. The paper and printing are excellent and the illustrations, some of which are in colour, are first class.

In a book such as this is it hard to find fault. Considering nearly the whole field of surgery is covered necessarily some subjects are not treated in great detail. A noticeable omission, however, is non-specific epididymitis.

The chapter on burns has been completely re-written and covers the whole subject, giving